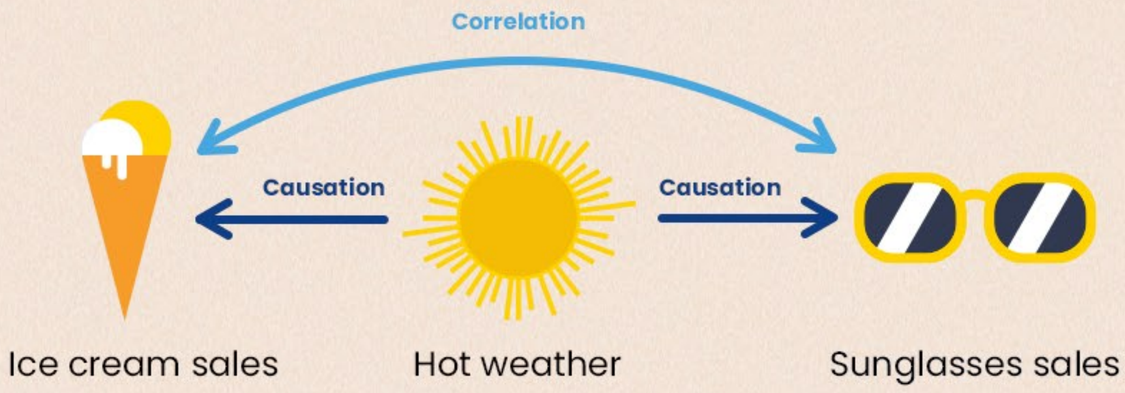
A beginner's guide to Cognitive Science research

Illuminated by @Inner_Drive | innerdrive.co.uk

Causation vs correlation

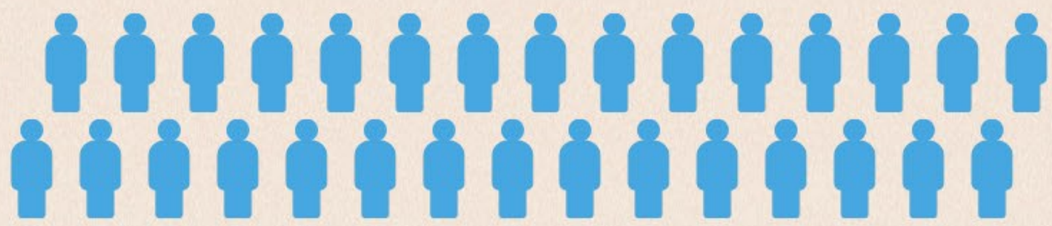
Causation means that X causes Y.

Correlation means that X is associated with Y.



Sample size

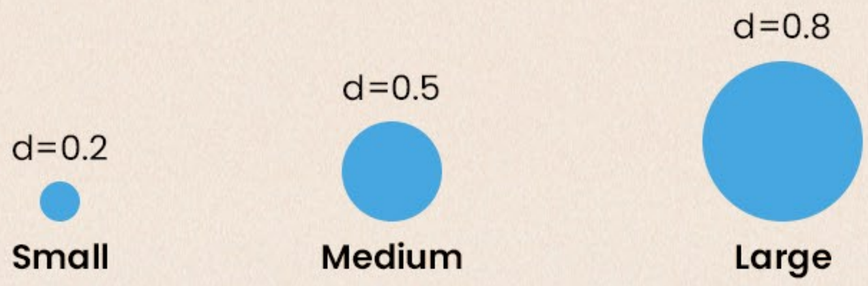
This refers to how many people took part in the study. Generally, the more participants, the more reliable the findings.



Effect size

Effect sizes, as measured by 'd', describe how significant the findings are.

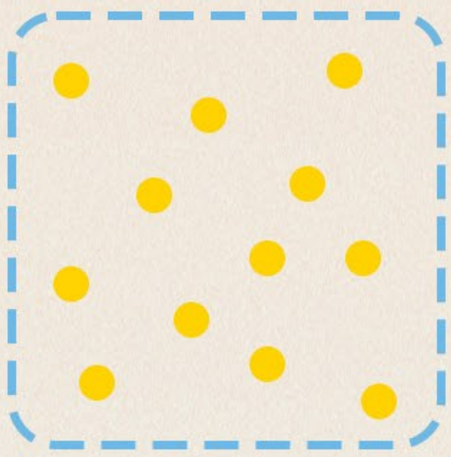
The greater 'd' is, the bigger the strength of the relationship between the two variables.



Different types of study design

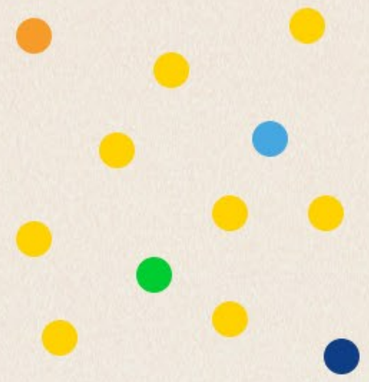
Research in a laboratory

This stops or limits external factors, making it easier to determine causation of just one factor being studied.



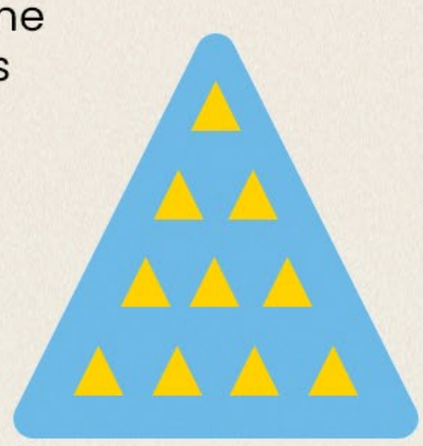
Research in the classroom

This assesses how applicable a strategy is. It is messier as it has more external factors, but it also has more real-world validity.



Meta-analysis

This is where researchers combine a large number of similar studies to decide how impactful a strategy may be.



Longitudinal studies

These track changes in a group or individuals over a period of time, ranging from years to decades.

Cognitive Science research is not intended to replace teacher judgement. It exists to help inform it. One study cannot give a definitive answer, but taken as part of a collection, it can help paint a picture to provide guidelines as to what might work best.